Clinical Quality Measures

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Healthcare Intelligence

Introduction

Telligen

Who We Are

- As the federally designated HIT Regional Extension Center for Iowa, we provide support for eligible providers, Critical Access Hospitals and rural hospitals with attesting to CMS EHR Incentive program.

  – Telligen has helped 1200 providers and 84 critical access hospitals and rural hospitals attest to Meaningful Use

Introduction

Antonio Vega

- I am a Health IT Advisor with Telligen and the regional extension center. My work involves helping critical access hospitals and rural hospitals navigate the CMS EHR incentive program.

Contact Information

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Agenda

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- Basics of CQMs

- Meaningful Use and Inpatient Quality Reporting

- Reading Clinical Quality Measures
  - Identifying CQMs that fit your workflow
  - Designing a Workflow

Basics of CQMs

What are Clinical Quality Measure

- Clinical Quality Measures (CQMs) – Are tools that help us measure and track the quality of healthcare services provided by healthcare professionals. These measures use a wide variety of data that are associated with a provider's ability to deliver high quality care or related to long term goals for health care quality. CQMs measure different aspects of patient care including health outcomes, clinical processes, patient safety, efficient use of healthcare resources, care coordination, patient engagements, population and public health, and clinical guidelines.

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http://www.cms.gov/Regulations-and-Guidance/Legislation/EHRIncentivePrograms/ClinicalQualityMeasures.html

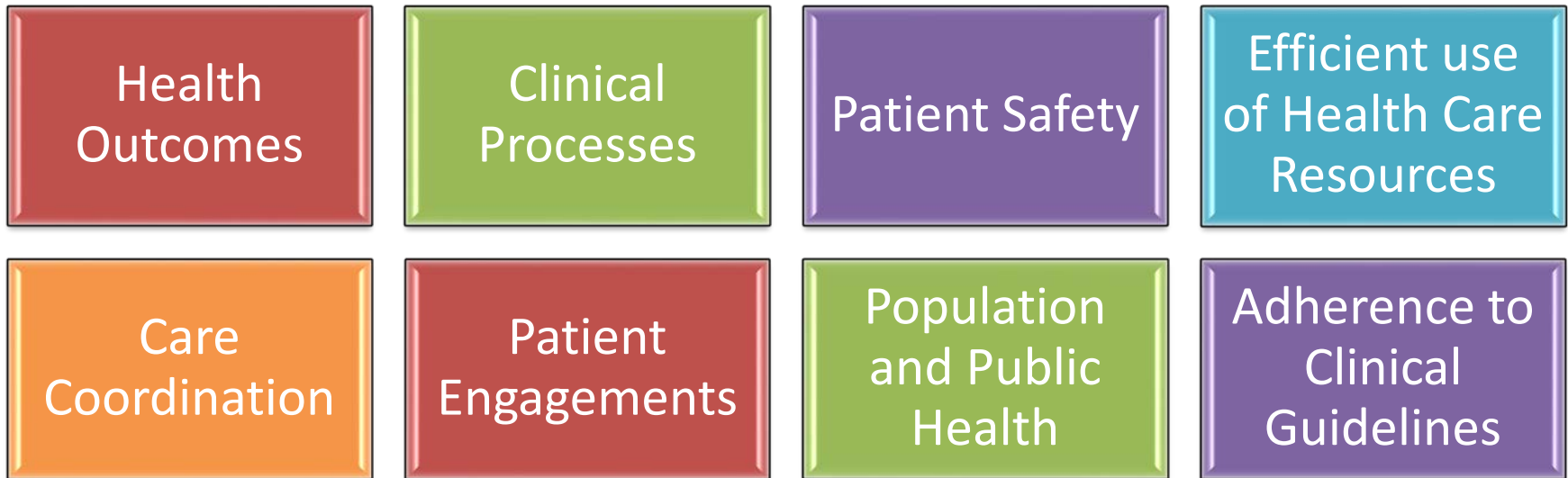# Clinical Quality Measures (CQMs)

- Span multiply quality improvement programs

- Measure the quality of patient care and in order to drive healthcare improvements

- Able to measure the quality of healthcare across different healthcare settings
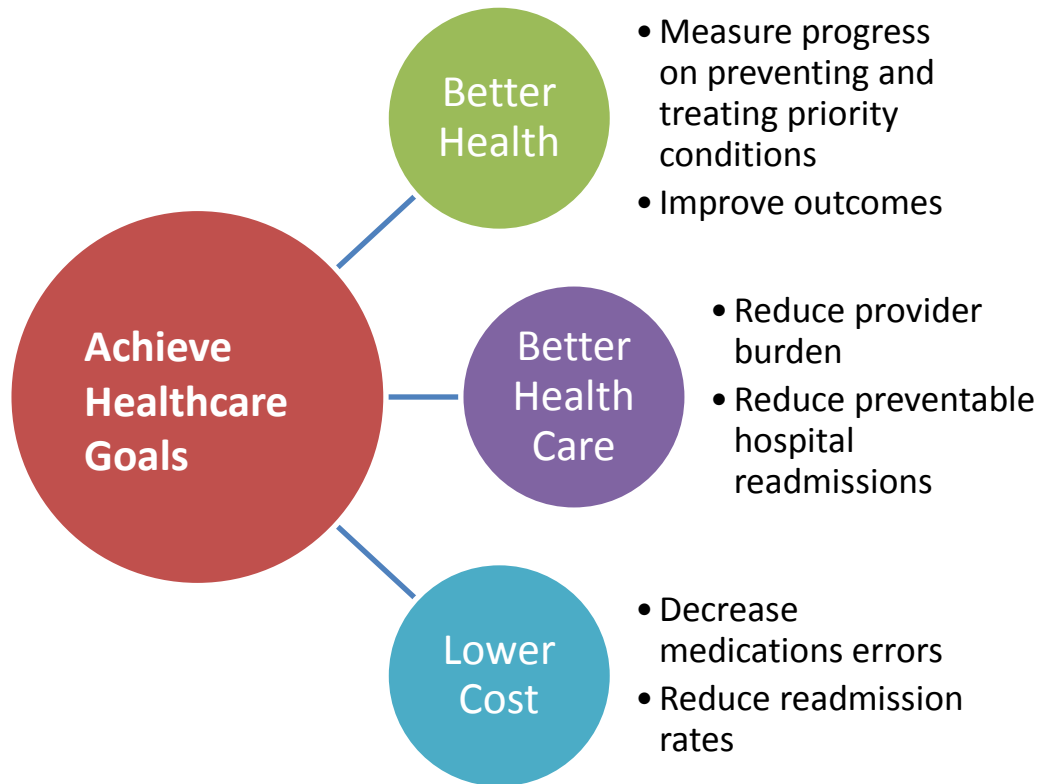
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Purpose CQMs

- Clinical Quality Measures are required to be reported for multiple state and federal programs

- Are used to help drive healthcare quality, by leading to better care, lower cost and better health outcomes.

- CQMs are used for health data analytics
  - Done to improve decision-making and overall population health

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Basics of CQMs

Measures Diverse Aspects of Patient Care

Health Outcomes	Clinical Processes	Patient Safety	Efficient use of Health Care Resources
Care Coordination	Patient Engagements	Population and Public Health	Adherence to Clinical Guidelines

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Basics of CQMs

Goals of CQMs

Achieve Healthcare Goals

Better Health
- Measure progress on preventing and treating priority conditions
- Improve outcomes

Better Health Care
- Reduce provider burden
- Reduce preventable hospital readmissions

Lower Cost
- Decrease medications errors
- Reduce readmission rates

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Meaningful Use and Inpatient Quality Reporting

Program Requirements

Inpatient Quality Reporting Requirements

- Maintain an active QualityNet security administrator

- Complete notice of participation (for newly reporting hospitals)

- Submit clinical process measure data

- Submit aggregate population and sample size counts

Program Requirements

Inpatient Quality Reporting Requirements

- Submit hospital consumer assessment of healthcare providers and systems data (HCAHPS)

- Submit healthcare-associated infection (HAI) data

- Complete structural measures information

- Complete data accuracy and completeness acknowledgment

Program Requirements

Meaningful Use Requirements

- Determine if your organization is eligible for Meaningful Use
  - Hospitals can be eligible for either Medicare, Medicaid or both

- Chose the menu objectives that you plan to attest to
  - The number of menu objective will vary depending on the stage of Meaningful Use that your organization is on

- Attest to Meaningful Use either through CMS or your states Medicaid program

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Program Requirements

Meaningful Use Requirements

- Must meet all thresholds in order to successfully attest to Meaningful Use

- Must submit Clinical Quality Measures in addition to programs menu and core objectives
    - Electronic health records must be certified to submit CQMs
    - CQMs must be generated from your current EHR system
    - EHs will need to report on 16 CQMs

Payment Reductions

CMS Programs

Program	FY 2014	FY 2015	FY 2016	FY 2017
Hospital VBP Program	±1.25%	±1.50%	±1.75%	±2.00%
Readmissions Reduction Program	-1.0%	-2.0%	-3.0%	-3.0%
HAC Program		-1.0%	-1.0%	-1.0%
Hospital IQR Program	-2.0%	-2.0%	-2.0%	-2.0%
Max Penalty:	**-4.25%**	**-6.5%**	**-7.75%**	**-8.0%**

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Meaningful Use Requirements

- There are several ways to report CQMs for Meaningful Use
  - Options that only apply for EHR incentive program
    - Attest to CQMs through the EHR registration & attestation system
    - eReport CQMs through hospital inpatient quality reporting

  - Options that align with other quality programs
    - Report through hospital inpatient quality reporting portal

Reading Clinical Quality Measures

Basics of Clinical Quality Measures

■ Clinical Quality Measures (CQMs) are a mechanism for assessing observations, treatments, processes, experiences, and/or outcomes of patient care. CQMs assess the degree to which a provider competently and safely delivers clinical services that are appropriate for the patient in an optimal timeframe.

CQMs are used to:

– Identify areas for quality improvement

– Identify differences in care/outcomes among various populations

– Improve care coordination between health care providers

Basics of Clinical Quality Measures

Six Domains

1. Patient and Family Engagement
2. Patient Safety
3. Care Coordination
4. Population and Public Health
5. Efficient Use of Healthcare Resources
6. Clinical Processes/Effectiveness

Basics of Clinical Quality Measures

Components of an eCQM

- XML
  - Contains information on how the data elements are defined and the underlying logic of the measure calculation

  - The organization is the same as the Human-Readable format, however, the file format is written in XML programming language

Basics of Clinical Quality Measures

Components of an eCQM

- Value Set
  - Breaks down the CQM based on the code groupings
    - The value set will contain different codes such as ICD9, ICD10 and SNOMED etc.
    - The value set will define the condition that will meet the CQM

  - The value set will include object identifiers also known as OIDs
    - OIDs will help the EHR developers with reporting on clinical quality measures

Basics of Clinical Quality Measures

Components of an eCQM

- Human-Readable
  - Will contain the most useful information for developing a workflow around a CQM
    - Human-Readable format will contain the narrative of the CQM as well as the logic that is used to determine a clinical quality measure
    - There are two sections of the Human-Readable format
    - The header which will give users the narrative
    - The body which will include the logic behind the CQM

- http://www.cms.gov/Regulations-and-Guidance/Legislation/EHRIncentivePrograms/eCQM_Library.html

Basics of Clinical Quality Measures

eCQM Human-Readable Format

- Population criteria

- Data criteria

- Reporting stratification

- Supplemental data elements

- Measure observations

Value Sets

- Object Identifiers
  - Will list all of the codes sets that are associated with the value set
  - The Value Set Authority Center is a searchable database that will allow users to look up the Object Identifiers

- https://vsac.nlm.nih.gov/

eCQM Narrative

eMeasure Title	Anticoagulation Therapy for Atrial Fibrillation/Flutter		
eMeasure Identifier (Measure Authoring Tool)	71	eMeasure Version number	5.0.000
NQF Number	0436	GUID	03876d69-085b-415c-ae9d-9924171040c2
Measurement Period	January 1, 20XX through December 31, 20XX		
Measure Steward	The Joint Commission		
Measure Developer	The Joint Commission		
Endorsed By	National Quality Forum		
Description	Ischemic stroke patients with atrial fibrillation/flutter who are prescribed anticoagulation therapy at hospital discharge.		
Copyright	Measure specifications are in the Public Domain.		
	LOINC(R) is a registered trademark of the Regenstrief Institute.		
	This material contains SNOMED Clinical Terms(R) (SNOMED CT(C)) copyright 2004-2010 International Health Terminology Standards Development Organization. All rights reserved.		
Disclaimer	These performance measures are not clinical guidelines and do not establish a standard of medical care, and have not been tested for all potential applications. The measures and specifications are provided without warranty.		
Measure Scoring	Proportion		
Measure Type	Process		
Measure Item Count	Encounter, Performed: Non-Elective Inpatient Encounter		
Stratification	None		
Risk Adjustment	None		
Rate Aggregation	None		
Rationale	Nonvalvular atrial fibrillation (NVAF) is a common arrhythmia and an important risk factor for stroke. It is one of several conditions and lifestyle factors that have been identified as risk factors for stroke. It has been estimated that over 2 million adults in the United States have NVAF. While the median age of patients with atrial fibrillation is 75 years, the incidence increases with advancing age. For example, The Framingham Heart Study noted a dramatic increase in stroke risk associated with atrial fibrillation with advancing age, from 1.5% for those 50 to 59 years of age to 23.5% for those 80 to 89 years of age. Furthermore, a prior stroke or transient ischemic attack (TIA) are among a limited number of predictors of high stroke risk within the population of patients with atrial fibrillation. Therefore, much emphasis has been placed on identifying methods for preventing recurrent ischemic stroke as well as preventing first stroke. Prevention strategies focus on the modifiable risk factors such as hypertension, smoking, and atrial fibrillation. Analysis of five placebo-controlled clinical trials investigating the efficacy of warfarin in the primary prevention of thromboembolic stroke, found the relative risk of thromboembolic stroke was reduced by 68% for atrial fibrillation patients treated with warfarin. The administration of anticoagulation therapy, unless there are contraindications, is an established effective strategy in preventing recurrent stroke in high stroke risk-atrial fibrillation patients with TIA or prior stroke.		
Clinical Recommendation Statement	The administration of anticoagulation therapy, unless there are contraindications, is an established effective strategy in preventing recurrent stroke in high stroke risk atrial fibrillation patients with TIA or prior stroke.		

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eCQM Logic

Population Criteria

- **Initial Population =**
    - AND: Age >= 18 year(s) at: Occurrence A of $EncounterInpatientNonElective
    - AND: Union of:
        - "Diagnosis, Active: Hemorrhagic Stroke (ordinality: Principal)"
        - "Diagnosis, Active: Ischemic Stroke (ordinality: Principal)"
        - starts during Occurrence A of $EncounterInpatientNonElective
- **Denominator =**
    - AND: Initial Population
    - AND: "Diagnosis, Active: Ischemic Stroke (ordinality: Principal)" starts during Occurrence A of $EncounterInpatientNonElective
    - AND: Union of:
        - "Procedure, Performed: Atrial Ablation" starts before start of Occurrence A of $EncounterInpatientNonElective
        - "Diagnosis, Active: Atrial Fibrillation/Flutter" starts before or concurrent with end of Occurrence A of $EncounterInpatientNonElective
        - "Diagnosis, Inactive: Atrial Fibrillation/Flutter" starts before start of Occurrence A of $EncounterInpatientNonElective
- **Denominator Exclusions =**
    - OR: Intersection of:

Basics of Clinical Quality Measures

eCQM Logic

- The use of "And"
  - The "And" means all of the data elements must meet the criteria in order to be considered in the measure

- The use of "Or"
  - Means any one element has to be true for consideration in order to be considered for the measured

- The use of "Not"
  - Will then negate the phrase that it is referencing

Basics of Clinical Quality Measures

Population Criteria

■ Proportion Measure

– Measures that define quality based on the number of cases that meet a criterion for quality divided by the number of eligible cases within a given time frame where the numerator cases area subset of the denominator cases

Basics of Clinical Quality Measures

Population Criteria

- Continuous Variable Measures

    – Measures that define quality based on variables among the patient in the defined population

        - Ex. Based on average wait time for patients seen in the emergency department and subsequently admitted to the hospital

Basics of Clinical Quality Measures

Population Criteria

- Ratio Measures

  - Measures that define quality based on the ratio of two events
    - Ex. Number of patients with central line infection divided by number of patients in the intensive care unit

Basics of Clinical Quality Measures

Data Criteria

- The data criteria will contain:

    - QDM elements for information that will pertain to the eCQM
    - This will define the data elements that will be found within the eCQM

Basics of Clinical Quality Measures

Data Criteria

Data Criteria (QDM Data Elements)

- "Diagnosis, Active: Cancer" using "Cancer Grouping Value Set (2.16.840.1.113883.3.526.3.1010)"
- "Encounter, Performed: Face-to-Face Interaction" using "Face-to-Face Interaction Grouping Value Set (2.16.840.1.113883.3.464.1003.101.12.1048)"
- "Encounter, Performed: Office Visit" using "Office Visit Grouping Value Set (2.16.840.1.113883.3.464.1003.101.12.1001)"
- "Procedure, Performed: Chemotherapy Administration" using "Chemotherapy Administration Grouping Value Set (2.16.840.1.113883.3.526.3.1027)"
- "Procedure, Performed: Radiation Treatment Management" using "Radiation Treatment Management Grouping Value Set (2.16.840.1.113883.3.526.3.1026)"
- "Risk Category Assessment: Standardized Pain Assessment Tool" using "Standardized Pain Assessment Tool Grouping Value Set (2.16.840.1.113883.3.526.3.1028)"

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Basics of Clinical Quality Measures

Parts of a CQM

- **Initial Patient Population**
  - The group of patients which the performance measures are designed to address
    - Example- All patients 65 years of age and older

- **Denominator**
  - A subset of the initial patient population
    - Example- All patients 65 years of age and older with diabetes

Parts of a CQM

- Numerator:
  - A subset of the denominator population for whom a process or outcome of care occurs. It represents a clinical action be counted as meeting a measures' requirements
    - Patients who had a diabetic foot exam

- Denominator exclusion:
  - The mechanism used to exclude patients from the denominator of a performance measure when a therapy or service would not be appropriate in instances for which the patient otherwise meets the denominator criteria
   - A patient with bilateral lower extremity amputation is excluded from a measure of foot exams

Basics of Clinical Quality Measures

Supplemental Data Sets

- Starting in 2014 CQMs will use the following supplemental data sets
  - Sex
  - Race
  - Ethnicity
  - Payer
- This will allow to compare information across different organizations and regions

Basics of Clinical Quality Measures

CQM Flow Chart
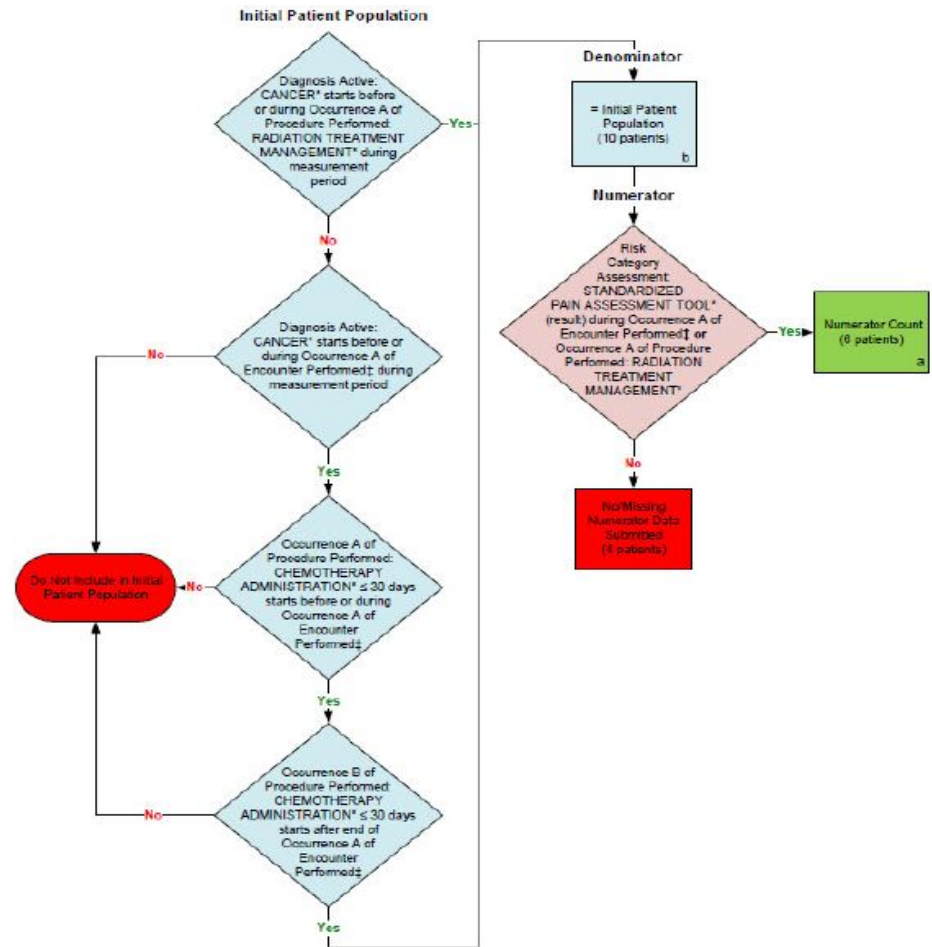
Identifying CQMs That Fit Your Workflow

CQMs That Fit Your Workflow

Questions to Ask

- What is the information the physician/office staff must be collecting

- How is the EHR system collecting that information

- How does the system pull data to create metrics

- How do the physicians/office staff monitor progress

CQMs That Fit Your Workflow

What to Consider

- All CQM data is meant to be captured in real time
  - Exclusions and exceptions are the challenges with meeting the CQM data requirements

- eCQMs are the transition from chart abstraction to real time data

CQMs That Fit Your Workflow

What to Consider

- Getting Data into the EHR system
  - What is the CQM trying to measure
  - What data is required to meet the CQM
  - Does the CQM meet my current workflow
- Getting the data out of the EHR system
  - Does the EHR CQM numbers look accurate for my patient population
  - Can I validate the numbers coming out of my EHR

CQMs That Fit Your Workflow

A Look at Workflow

- Taking a closer look at how the office staff will interact with both the patient and the clinical quality measure

- Identifying the interaction and how the documentation will look with one another

CQMs That Fit Your Workflow

Developing a Workflow

- Reminders, alerts and reports that when provided increased efficiency and improved workflow

- Administrative and clinical workflow and work design that have positive and negative impacts on workflow and job content

- Consequences of the health IT system that affected workflow

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Developing a Workflow

- Interface design that affected job content and workflow

- System integration that in all cases positively affected workflow

- Planning activities and their impact on workflow

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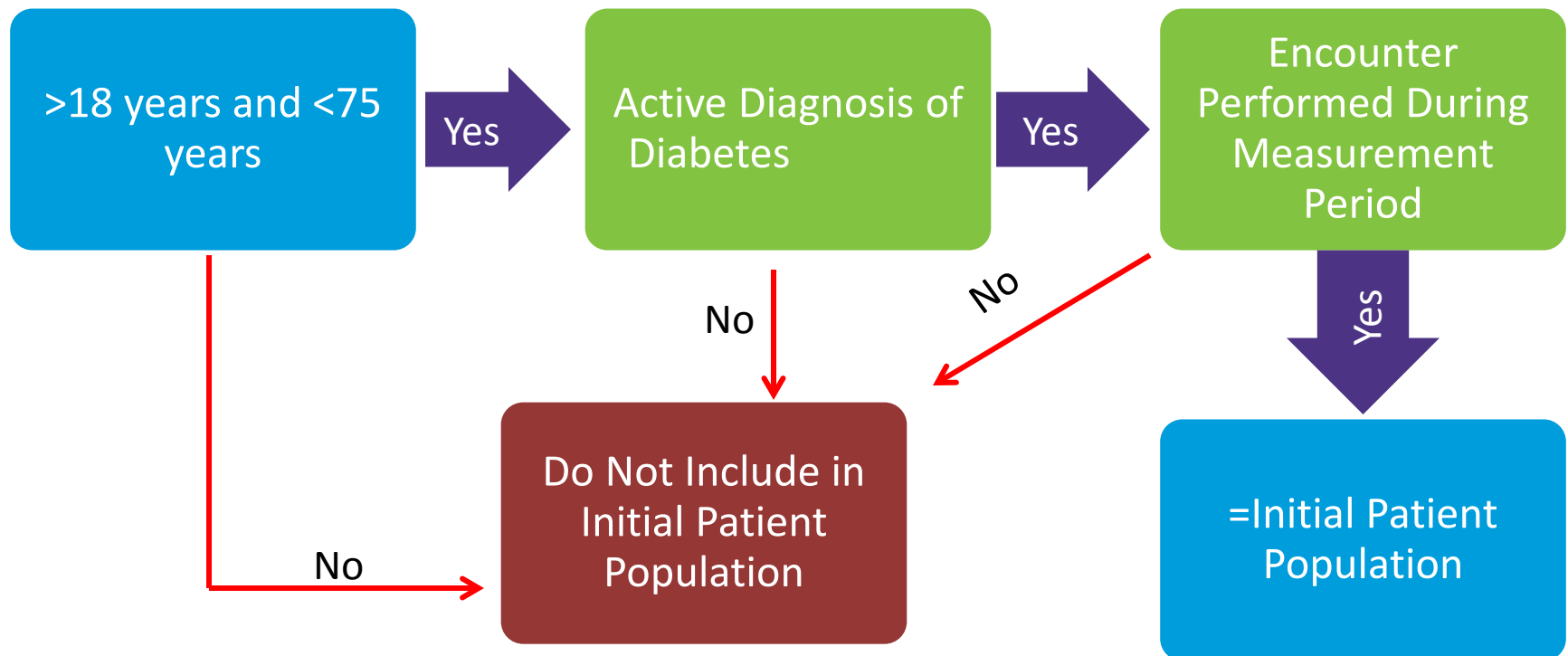
Designing a Workflow

Optimizing a Workflow

- Analyze current workflow

- Solicit clinician and staff input regarding roles in current paper workflows

- Review and finalize documentation of current workflow

- Identify waste and opportunities

- Identify and implement the EHR system and workflow

- Analyze new workflow and refine as needed

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Designing a Workflow

Flow Chart


```
[>18 years and <75 years] --Yes--> [Active Diagnosis of Diabetes] --Yes--> [Encounter Performed During Measurement Period]

[>18 years and <75 years] --No--> [Do Not Include in Initial Patient Population]

[Active Diagnosis of Diabetes] --No--> [Do Not Include in Initial Patient Population]

[Encounter Performed During Measurement Period] --No--> [Do Not Include in Initial Patient Population]

[Encounter Performed During Measurement Period] --Yes--> [=Initial Patient Population]
```

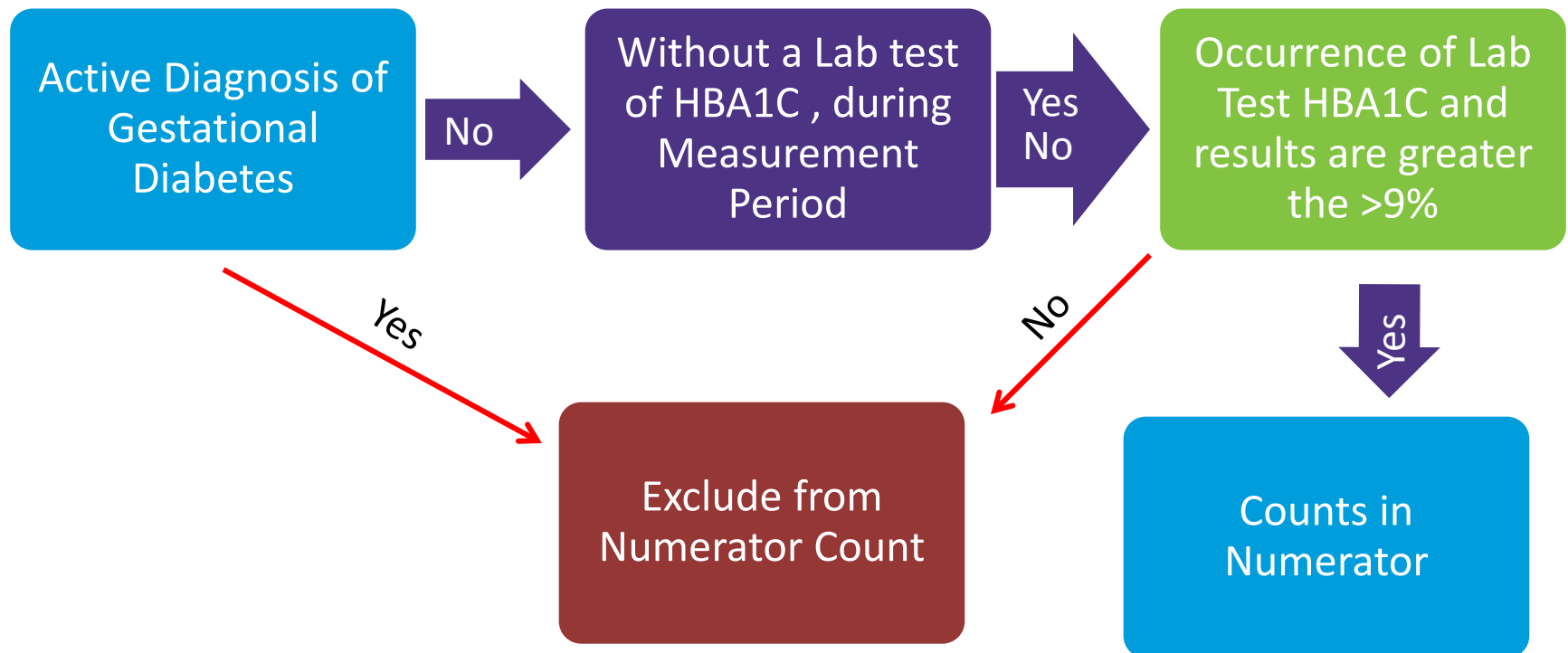# Designing a Workflow

Flow chart denominator/numerator count

Designing a Workflow

Which staff will interact with patient

- Identify what staff members will interact with the patient and at what point
  - How can our EHR system complement our current workflow
  - What changes need to be incorporated with our current workflow to make the system more efficient

Designing a Workflow
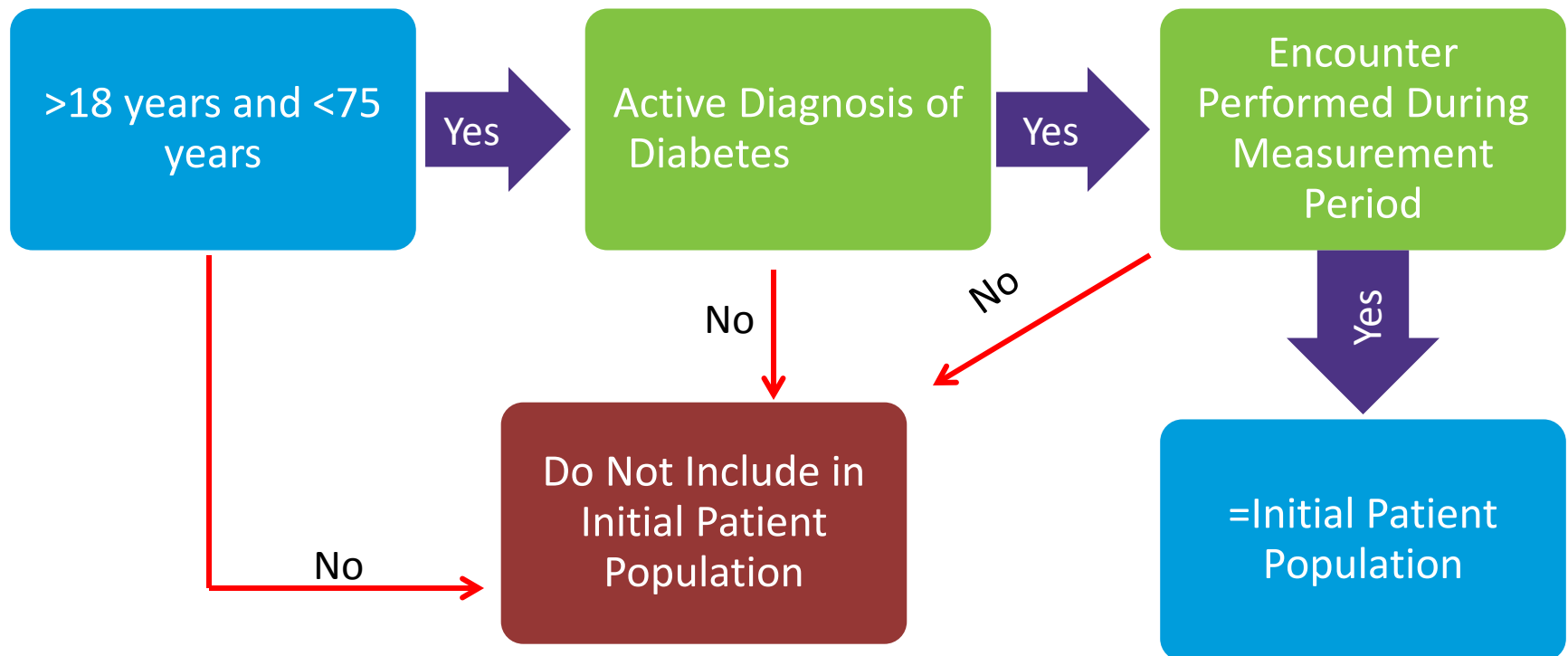
Front office staff

- Take basic information
  - Date of Birth
  - Insurance
  - Sex
  - Ethnicity
  - Record visit reason
  - Collect co-pay
  - Check in

EHR functionality

- What can my electronic health record do?
  - Suggest templates based off of visit reason
  - Recommend preventive test based off of age, condition and sex
  - Associate visit reason with medical problems

Designing a Workflow

Flow chart

>18 years and <75 years → **Yes** → Active Diagnosis of Diabetes → **Yes** → Encounter Performed During Measurement Period → **Yes** → =Initial Patient Population

>18 years and <75 years → **No** → Do Not Include in Initial Patient Population

Active Diagnosis of Diabetes → **No** → Do Not Include in Initial Patient Population

Encounter Performed During Measurement Period → **No** → Do Not Include in Initial Patient Population

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Designing a Workflow
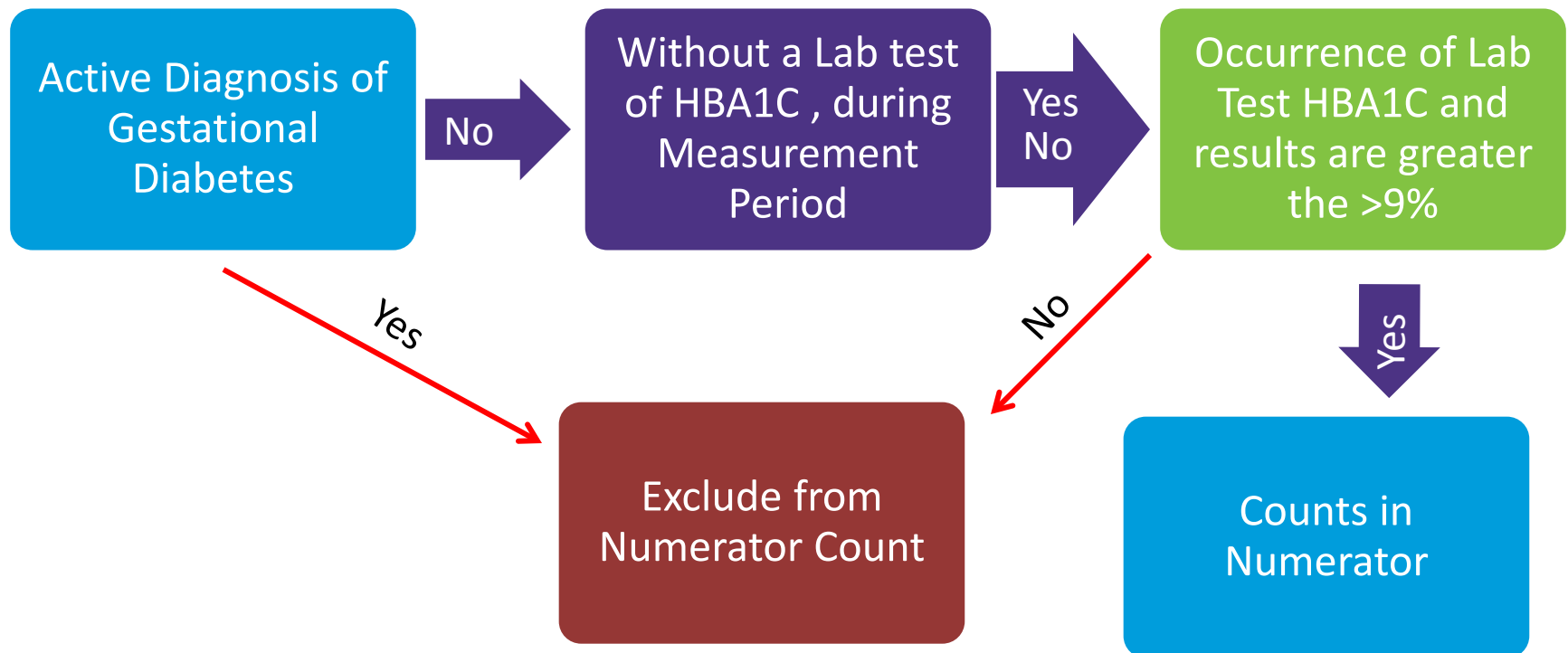
Nursing staff

- Room patient
  - Take vitals
  - Chose visit templates
  - Medication reconciliation
  - Order standing orders
  - Immunizations

EHR functionality

- What can my electronic health record do?
  - Recommend template based off of chief complaint
  - Flagged for overdue labs or procedures
  - Abnormal lab values

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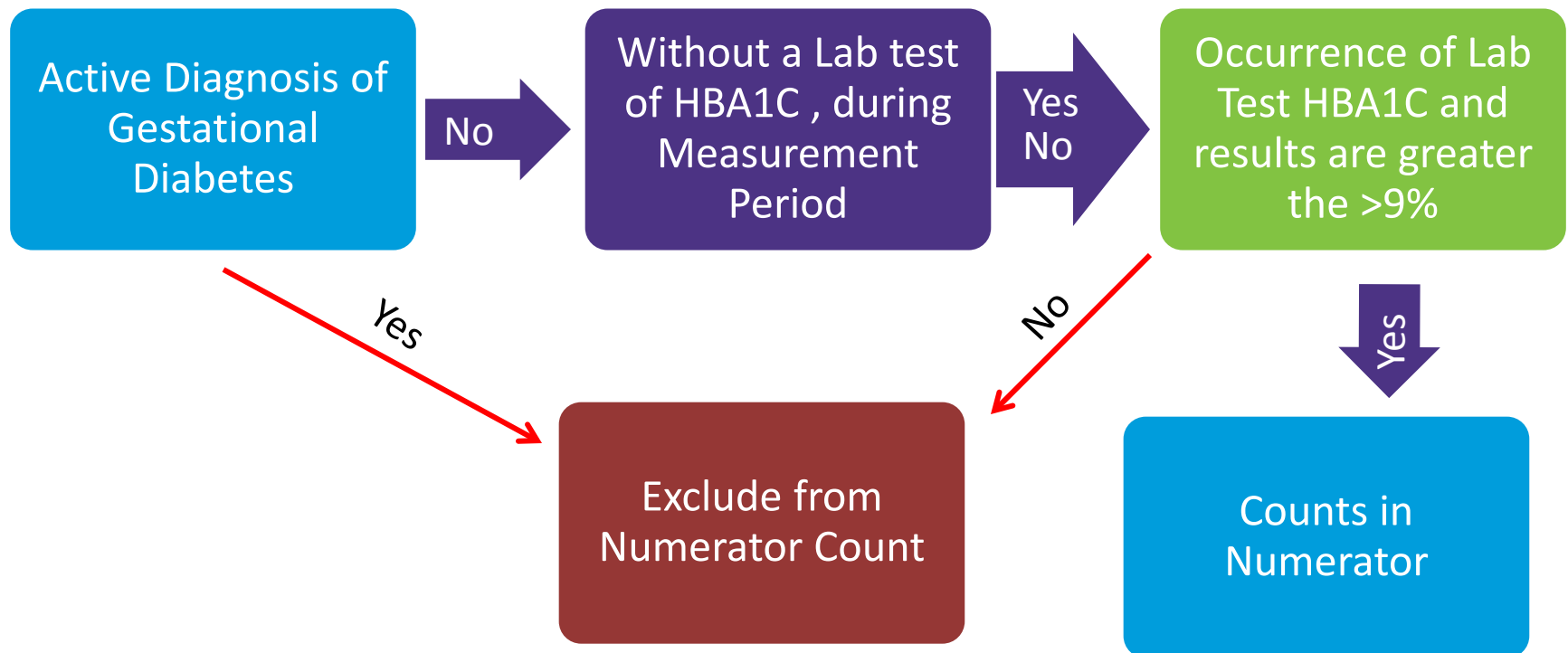
Designing a Workflow

Providers

- Order meds based off of labs

- Review any lab orders that nurse had ordered

- Perform the exam

- Order any preventative screening test

- Recommend follow up visits

EHR Functionality

- Flagged for abnormal lab results

- Recommend next visit to perform tests

Designing a Workflow

Flow chart denominator/numerator count

Active Diagnosis of Gestational Diabetes → No → Without a Lab test of HBA1C , during Measurement Period → Yes No → Occurrence of Lab Test HBA1C and results are greater the >9%

Active Diagnosis of Gestational Diabetes → Yes → Exclude from Numerator Count

Occurrence of Lab Test HBA1C and results are greater the >9% → No → Exclude from Numerator Count

Occurrence of Lab Test HBA1C and results are greater the >9% → Yes → Counts in Numerator

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Thank You

Sources

- Guidance from CMS on all of the Stage 1 NQF Clinical Quality Measures can be found here:

  http://www.cms.gov/Regulations-and-Guidance/Legislation/EHRIncentivePrograms/Downloads/CQM_EPs_2012_02_02.pdf

- Guidance from American Psychiatric Association on Meaningful Use and Clinical Quality Measures

  http://www.psychiatry.org/practice/managing-a-practice/electronic-health-records/medicare-and-medicaid-electronic-health-record-ehr-incentive-payment-programs

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Sources

- EHR Incentive Program Website

  http://www.cms.gov/Regulations-and-Guidance/Legislation EHRIncentivePrograms/index.html?redirect=/EHRIncentivePrograms/

- ECQM Library

  http://www.cms.gov/Regulations-and-Guidance/Legislation/EHRIncentivePrograms/eCQM_Library.html

- Guidance from CMS on all of the Stage 1 NQF Clinical Quality Measures can be found here:

  http://www.cms.gov/Regulations-and-Guidance/Legislation/EHRIncentivePrograms/Downloads/CQM_EPs_2012_02_02.pdf

- Guidance from American Psychiatric Association on Meaningful Use and Clinical Quality Measures

  http://www.psychiatry.org/practice/managing-a-practice/electronic-health-records/medicare-and-medicaid-electronic-health-record-ehr-incentive-payment-programs

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